What is claimed is:

Claims:

1. A lamp system for generating ultraviolet radiation, comprising:

a power supply;

a lamp head including a lamp capable of generating ultraviolet radiation when energized by microwave energy;

a plurality of magnetrons supplying microwave energy to said lamp head effective to excite a plasma in said lamp for generating ultraviolet radiation;

at least one low-voltage device associated with said lamp head; and

a single electrical cable operative to electrically couple said power supply with said plurality of magnetrons and operative to electrically couple said power supply with said at least one low-voltage device.

2. The lamp system of claim 1 wherein said electrical cable includes a first set of conductors configured to carry a first voltage and a second set of conductors configured to carry a second voltage less than said first voltage, said first set of conductors electrically coupling said power supply with said plurality of magnetrons and said second set of conductors electrically coupling said power supply with said at least one low-voltage device.

3. The lamp system of claim 2 wherein said first voltage is less than about 10,000 DC Volts and said second voltage is less than about 300 AC Volts.

4. The lamp system of claim 2 wherein said first voltage is in the range of about 4,000 DC Volts to about 6,000 DC Volts.

5. The lamp system of claim 1 wherein said at least one low-voltage device is selected from the group consisting of a blower, a sensor, and a filament of one of said plurality of magnetrons.

6. An electrical cable for a lamp system including a power supply, a lamp head having a lamp capable of generating ultraviolet radiation when energized by microwave energy, a plurality of magnetrons supplying microwave energy effective to excite a plasma in said lamp for generating ultraviolet radiation, and at least one low-voltage device associated with said lamp head, said electrical cable comprising:

a first set of conductors configured to carry a first voltage, said first set of conductors adapted for electrically coupling the power supply with the plurality of magnetrons; and

a second set of conductors configured to carry a second voltage less than said first voltage, said second set of conductors electrically coupling said power supply with the at least one low-voltage device.

7. The electrical cable of claim 6 wherein said first voltage is less than about 10,000 DC Volts and said second voltage is less than about 300 AC Volts.

8. The electrical cable of claim 6 wherein said first voltage is in the range of about 4,000 DC Volts to about 6,000 DC Volts.

9. The electrical cable of claim 6 wherein said first set of conductors is positioned radially inward of said second set of conductors, and further comprising:

a first shield disposed radially between said first set of conductors and said second set of conductors.

10. The electrical cable of claim 9 further comprising:

a second shield disposed radially outward of said second set of conductors.

11. An electrical cable for a lamp system including a power supply, a lamp head having a lamp capable of generating ultraviolet radiation when energized by microwave energy, a plurality of magnetrons supplying microwave energy effective to excite a plasma in said lamp for generating ultraviolet radiation, and at least one low-voltage device associated with said lamp head, said electrical cable comprising:

a plurality of high-voltage conductors electrically coupled with said plurality of magnetrons;

a plurality of low-voltage conductors electrically coupled with said at least on low-voltage device;

an inner shield separating said plurality of high-voltage conductors from said plurality of low-voltage conductors; and

an outer shield surrounding said plurality of low-voltage conductors.

12. The electrical connector of claim 11 wherein said plurality of high-voltage conductors are positioned in a first circular arrangement radially inside said inner shield and said plurality of low-voltage conductors are positioned in a second circular arrangement between said inner shield and said outer shield.

13. The electrical connector of claim 12 wherein said inner shield is positioned radially between said plurality of high-voltage conductors and said plurality of low-voltage conductors.

14. The electrical connector of claim 11 wherein said plurality of low-voltage conductors are more numerous than said plurality of high-voltage conductors.